



Application No.: 10/605,638  
Docket No. 23634-0001-U1

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: RAHMAN, Anis ) Group Art Unit: 2633  
Application No.: 10/605,638 ) Examiner: KIANNI, Kaveh C.  
Filed: October 15, 2003 ) Atty. Docket No. 23634-0001-U1  
For: REFLECTIVE ARRAYED WAVEGUIDE GRATING

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

SIR:

The following are included with this Information Disclosure Statement:

- ☒ **A. PTO/SB/08**
- ☐ **B. CERTIFICATION**  
(37 C.F.R. 1.97(c)-before final Office Action or allowance)
- ☐ **C. \$180.00 FEE PAYMENT**  
(37 C.F.R. 1.97(c)-before final Office Action or allowance)
- ☐ **D. \$180.00 PETITION, CERTIFICATION & PETITION FEE PAYMENT**  
(37 C.F.R. 1.97(d)-before issue fee payment)

The following are submitted in the above-identified application in compliance with 37 CFR 1.98:

- ☐ **I. A copy of each listed U.S. Patent and U.S. Patent application publication [1.98(a)(2)(i)].**
- ☐ **II. A copy of each listed foreign patent and/or published foreign patent application. For each listed foreign patent and/or published foreign patent application [1.98(a)(2)]:**
- ☐ a) the English language version or an English translation if not published in English, if available (see PTO-1449)[1.98(a)(3)]; and/or

- ☐ b) U.S. counterpart patents or English language equivalents of the foreign patents or published foreign patent applications (see PTO-1449); and/or
  - ☐ c) a concise explanation of the relevance of the listed patents, publications or other information (see PTO-1449, foreign search report or other, attached), as it is presently understood by the person signing this disclosure, since no English translation is currently available[1.98(a)(3)].
- ☒ **III.** A copy of each listed publication, other than published foreign applications. For each listed publication [1.98(a)(2)]:
- ☒ (a) an English translation, if available, when the original publication is not in the English language (see PTO-1449)[1.98(a)(3)];
  - ☐ (b) a concise explanation of the listed publications (see PTO-1449), as it is presently understood by the person signing this disclosure, since no English translation is currently available [1.98(a)(3)].
- ☒ **IV.** For any other listed information, a copy of the information or that portion which caused it to be listed (see PTO-1449)[1.98(a)(2)(iii)].
- ☐ **V.** Each listed U.S. Patent, Publication or other information that was previously cited by or submitted to the Office in a prior application, which application is relied upon for an earlier filing date under 35 U.S.C. § 120 [1.98(d)].
- ☒ **VI.** Copies of each listed U.S. Patent and U.S. Patent application publication are not being submitted herewith pursuant to a waiver of 37 CFR 1.98(a)(2)(i) by the USPTO on July 11, 2003 for applications filed after June 30, 2003.

This information is submitted in the above-identified application in compliance with 37 C.F.R.1.97 because:

- ☒ **1.** This information disclosure is submitted within three months of the filing date of the application, or before the mailing date of the first office action on the merits of the application [1.97(b)].
- ☐ **2.** This information disclosure is submitted before the mailing date of a final action in this application under 1.113[1.97(c)] and the requisite statement or fee is provided (see items 6 or 7 below).

- ☐ 3. This information disclosure is submitted before the mailing date of a notice of allowance under 1.311 [1.97(c)] and the requisite statement or fee is provided (see items 6 or 7 below).
- ☐ 4. This information disclosure is submitted after the mailing date of a final action under 1.113 [1.97(d)] and the requisite statement and fee is provided (see items 6 and 8 below).
- ☐ 5. This information disclosure is submitted after the mailing date of a notice of allowance under 1.311, but before the payment of the issue fee [1.97(d)] and the requisite statement and fee is provided (see items 6 and 8 below).
- ☐ 6. This information disclosure statement is submitted with the statement required for items 2, 3, 4 or 5 above [1.97(c), (d), (e)]:
- ☐ **I, William P. Smith, hereby state the following:**
- ☐ **Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.**
- ☐ **No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing this certification after making reasonable inquiry, no item of information contained in this information disclosure was known to any individual designated in 1.56(c) more than three months prior to the filing of this information disclosure statement.**
- ☐ 7. This information disclosure statement is submitted with the fee of \$180 set forth in 1.17(p) [see items 2 and 3 above]. Please charge this fee and any other fees associated with this application to Deposit Account No. 50-1059. (Please note, no fee is required for items 2 and 3 above if the Item 6 statement is provided).

Application No.: 10/605,638  
Atty. Docket No. 23634-0001-U1

- ☐ 8. Please charge this fee and any other fees associated with this application to Deposit Account No. 50-1059.

Dated: June 14, 2005

Respectfully submitted,  
McNees Wallace & Nurick LLC



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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 3

**Complete if Known**

Application Number	10/605,638
Filing Date	October 15, 2003
First Named Inventor	RAHMAN, Anis
Art Unit	2633
Examiner Name	KIANNI, Kaveh C.
Attorney Docket Number	23634-0001-U1

**U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	A	US- 6,859,574 B2	02-22-2005	Doerr et al.	
	B	US- 6,769,274 B2	08-03-2004	Cho et al.	
	C	US- 2004/0105610 A1	06-03-2004	Rahman	
	D	US- 6,720,093 B2	04-13-2004	Samuel et al.	
	E	US- 2001/0033715	10-25-2001	Delisle et al.	
	F	US- 6,188,818 B1	02-13-2001	Han et al.	
	G	US- 6,051,372	04-18-2000	Bayerl et al.	
	H	US- 5,546,483	08-13-1996	Inoue et al.	
	I	US- 5,208,111	05-04-1993	Decher et al.	
	J	US- 4,973,429	11-27-1990	Decher et al.	
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Substitute for form 1449B/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				Application Number	10/605,638
				Filing Date	October 15, 2003
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				Art Unit	2633
				Examiner Name	KIANNI, Kaveh C.
Sheet	2	of	3	Attorney Docket Number	23634-0001-U1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	1	K. OKAMOTO; "Fundamentals of Optical Waveguides, Ch. 9"; Academic Press, New York 2000.	
	2	K.M.A. RAHMAN, C.J. DURNING, N.J. TURRO and D.A. Tomalia; "Adsorption of Poly(amido amine) Dendrimers on Gold"; Langmuir 2000, volume 16; pages 10154 - 10160.	
	3	K.M. Anis RAHMAN, Christopher J. DURNING and Nicholas J. TURRO; "Molecular Dynamics of PAMAM Dendrimers"; <a href="http://dwdm2.home.comcast.net/p-amamdynamics.pdf">http://dwdm2.home.comcast.net/p-amamdynamics.pdf</a> .	
	4	Dendritic NanoTechnologies website at <a href="http://dnanotech.com/properties.html">http://dnanotech.com/properties.html</a> .	
	5	Akira OTOMO, Sonoko OTOMO, Shiyoshi YOKOYAMA, Tatuso NAKAHAMA, Shinro MASHIKO; "Remarkable optical properties of dendrimers for laser applications"; Linear and Nonlinear Optics of Organic Materials; Manfred EICH and Mark G. KUZYK - Editors; Proceedings of SPIE; volume 4461; pages 180 - 187; 2001.	
	6	Alex K. Y. JEN, Hong MA, Takafumi SASSA, Sen LIU, S. SURESH, Larry R. DALTON, and Mamie HALLER; "Highly efficient and thermally stabler organic/polymeric electro-optic materials by dendritic approach"; Linear and Nonlinear Optics of Organic Materials; Manfred EICH and Mark G. KUZYK - Editors; Proceedings of SPIE; volume 4461; pages 172 - 179; 2001.	
	7	Pr. Gero DECHER; "L'Interfacage Macromoleculaire: Nouveaux Matériaux par Nanoassemblage"; Conference du Mercredi; 12 Février 2003.	
	8	Claire PITOIS, Robert VESTBERG, Marlene RODLERT, Eva MALMSTROM, Anders HULT, Mikael LINDGREN; "Fluorinated dendritic polymers and dendrimers for waveguide applications"; Optical Materials; volume 21, pages 499 - 506; 2002.	
	9	Larry R. DALTON; "Polymeric and Dendritic Electro-Optic Materials: Materials Issue"; University of Washington; Seattle, Washington 98185-01700.	
	10	C. DRAGONE; "An NxN Optical Multiplexer Using a Planar Arrangement of Two Star Couplers"; IEEE Photonics Technology Letters; volume 3; number 9; pages 812 - 815; September 1991.	
	11	Y. INOUE, A. HIMENO, K. MORIWAKI, M. KAWACHI; "Silica-based arrayed-waveguide grating circuit as optical splitter/router"; Electronics Letters; volume 31; number 9; pages 726 - 727; April 27, 1995.	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Sheet	3	of	3		

(Use as many sheets as necessary)

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	12	H. BISSESSUR, B. MARTIN, R. MESTRIC, and F. GABORIT; "Small-size, polarization-independent phased-array demultiplexers on InP"; Electronics Letters; volume 31; number 24; pages 2118 – 2120; November 23, 1995.	
	13	T. BRENNER, C.H. JOYNER and M. ZIRNGIBL; "Compact design waveguide grating routers"; Electronics Letters; volume 32; number 18; pages 1660 – 1661; August 29, 1996	
	14	M. ZIRNGIBL, C.H. JOYNER AND J.C. CENTANNI; "Size reduction of waveguide grating router through folding back the input/output fanouts"; Electronics Letters, volume 33; number 4; pages 295 – 297; February 13, 1997.	
	15	Hideaki OKAYAMA, Masato KAWAHARA and Takeshi KAMIJOH; "Reflective Waveguide Array Demultiplexer in LiNbO <sub>3</sub> "; Journal of Lightwave Technology; volume 14; number 6; pages 985 – 990; June 1996.	

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